

Name: \_\_\_\_\_

### at1118paper: Complete the Square (v416)

#### Example

By completing the square, find both solutions to the given equation:

$$x^2 - 56x = -780$$

Add  $(\frac{-56}{2})^2$ , which equals 784, to both sides of the equation.

$$x^2 - 56x + 784 = 4$$

Factor the left side.

$$(x - 28)^2 = 4$$

Undo the squaring. We need to consider both  $\pm\sqrt{4}$ .

$$x - 28 = -2$$

or

$$x - 28 = 2$$

$$x = 26$$

or

$$x = 30$$

#### Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 34x = 936$$

#### Question 2

By completing the square, find both solutions to the given equation:

$$x^2 + 24x = -119$$

**Question 3**

By completing the square, find both solutions to the given equation:

$$x^2 + 18x = 760$$

**Question 4**

By completing the square, find both solutions to the given equation:

$$x^2 + 8x = 384$$

**Question 5**

By completing the square, find both solutions to the given equation:

$$x^2 - 52x = -352$$

**Question 6**

By completing the square, find both solutions to the given equation:

$$x^2 + 54x = 360$$